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(54) Title: METHOD FOR MANAGING TRAFFIC ENCRYPTION KEY IN WIRELESS PORTABLE INTERNET SYSTEM AND PROTOCOL CONFIGURATION METHOD THEREOF, AND OPERATION METHOD OF TRAFFIC ENCRYPTION KEY STATE MACHINE IN SUBSCRIBER STATION

(57) Abstract: Disclosed is a traffic encryption key (TEK) management method for automatically generating a TEK for a multicast or broadcast service by a base station to periodically update a TEK used by a subscriber station. The base station transmits the first Key Update Command message for updating a group key encryption key (GKEK) for encrypting the TEK and the second Key Update Command message for updating the TEK to the subscriber station to update the TEK. The base station establishes an M & B TEK Grace Time which is different from a TEK Grace Time established by the subscriber station, transmits the first message including a new GKEK to the subscriber station through a primary management connection before the M & B TEK Grace Time, and transmits the second message including a new TEK encrypted with the new GKEK thereto through a broadcast connection after the M & B TEK Grace Time.